

UNITED STATES MARINE CORPS
Logistics Operations School
Marine Corps Combat Service Support Schools
Training Command
PSC Box 20041
Camp Lejeune, North Carolina 28542-0041

MTCC 4408

STUDENT OUTLINE

CONVOY ORGANIZATION AND PREPARATION

a. Terminal Learning Objective: Provided with a requirement to move motor transport vehicles, required tools and equipment, and the references, supervise convoy operations, per the references. (35XX.03.09)

b. Enabling Learning Objectives

(1) Provided with a requirement to move motor transport vehicles, required tools and equipment, and the references, identify the elements of a convoy, per the references. (35XX.03.09a)

(2) Provided with the requirement to move motor transport vehicles, required tools and equipment, and the references, identify the functional parts of a march column, per the references. (35XX.03.09b)

(3) Provided with the requirement to move motor transport vehicles, required tools and equipment, and the references, identify the column formations used in motor movements, per the references. (35XX.03.09c)

(4) Provided with the requirement to move motor transport vehicles, required tools and equipment, and the references, identify the responsibilities of the convoy commander, per the references. (35XX.03.09d)

(5) Provide with the requirement to move motor transport vehicles, required tools and equipment, and the references, identify the responsibilities of the assistant convoy commander, per the references. (35XX.03.09e)

(6) Provided with the requirement to move motor transport vehicles, required tools and equipment, and the references, identify the responsibilities of the advance officer, per the references. (35XX.03.09f)

(7) Provided with the requirement to move motor transport vehicles, required tools and equipment, and the references, identify the responsibilities of the trail officer, per the references. (35XX.03.09g)

(8) Provided with the requirement to move motor transport vehicles, required tools and equipment, and the references, identify the responsibilities of the trail maintenance officer, per the references. (35XX.03.09h)

(9) Provided with a requirement to move motor transport vehicles, required tools and equipment, and the references, identify the responsibilities of the trail advance party, per the references. (35XX.03.09i)

(10) Provided with a requirement to move motor transport vehicles, required tools and equipment, and the references, identify the types of haul, per the references. (35XX.03.09j)

(11) Provided with a requirement to move motor transport vehicles, required tools and equipment, and the references, identify the methods of hauling personnel and cargo, per the references. (35XX.03.09k)

(12) Provided with a requirement to move motor transport vehicles, required tools and equipment, and the references, organize the vehicles that comprise the "head" of a convoy, per the references. (35XX.03.09l)

(13) Provided with a requirement to move motor transport vehicles, required tools and equipment, and the references, organize the vehicles that comprise the "main body" of a convoy, per the references. (35XX.03.09m)

(14) Provided with a requirement to move motor transport vehicles, required tools and equipment, and the references, organize the vehicles that comprise the "trail" of a convoy, per the references. (35XX.03.09n)

(15) Provided with a requirement to move motor transport vehicles, required tools and equipment, and the references, direct the movement of a march column, per the references. (35XX.03.09aa)

1. **CLASSIFICATION OF MOTOR MOVEMENTS**. Motor transport motor movements are classified by the likelihood of enemy contact and degree of control.

a. Enemy Contact. Motor movements are divided into two general categories: tactical and administrative. To make either type of move, organic, attached, and supporting transport assets may be used.

(1) Tactical movements. The basis for classifying a movement as tactical is the likelihood of enemy contact. The distribution of control, in the form of direct support or attachment to the maneuvering unit, is normally required for a tactical move. During this movement, security of the convoy is the primary concern.

(2) Administrative movements. An administrative movement is conducted when it has been decided that ground contact with the enemy is remote or improbable during and after arrival at the destination. During this movement, the efficient use of available transportation is the primary concern.

b. Degree of Movement Control. Control measures must be applied to all motor transport movements. By this classification method, there are three types of movement: casual, infiltration, and convoy.

(1) Casual (uncontrolled) movements consist of individual vehicles proceeding at will while performing routine administrative, command, staff, or support functions.

(2) Infiltration movement.

(a) This type of movement consists of a small group of vehicles moving to perform a specific task.

(b) The group follows a specific route but need not keep to convoy restrictions such as rate of march, checkpoints, and rigid start or stop points.

(3) A convoy is a group of vehicles organized for the purpose of control and orderly movement with or without escort protection. Convoys should move per the specific control measures outlined in the SOP, warning order, movement order or highway regulation plan.

2. CONVOY ORGANIZATION. As previously mentioned, a convoy is a group of vehicles organized for the purpose of control or orderly movement with or without escort protection. The convoy may be broken down into the march column, serial, and march unit.

a. March Column. The march column consists of the vehicles in a convoy involved in a single move over the same route.

(1) The march column is organized by dividing it into manageable groups.

(2) A column consisting of twenty vehicles or less is usually not divided because the convoy commander can control it.

(3) A convoy consisting of more than twenty vehicles may be divided into manageable elements; these elements are referred to as serials and march units.

b. Serial

(1) A serial is an element of a march column which moves from the same area, over the same route, at the same rate, and to the same new area.

(2) The serial is organized under and controlled by a serial commander, who is responsible to the convoy commander.

c. March Unit. The march unit is an element of a serial which moves or halts on command or signal of the march unit commander.

(1) March units are usually separated by a specific time gap or interval.

(2) Truck section leaders are designated as march unit commanders by the convoy commander/company commander.

3. ORGANIZATION OF A MARCH COLUMN. Regardless of its size, all march columns are composed of at least three functional parts: the head, main body, and trail. At times, it may be necessary to use a fourth part, a detached party either ahead of the column or following it.

a. Head

(1) The head, with a pacesetter, contains the first vehicles of the column in order of march.

(2) An advance party consisting of armored vehicles, engineers, and infantry may precede the head, if the situation dictates.

b. Main Body

(1) The main body of the column follows the head immediately after the pacesetter.

(2) The main body, the largest part of the convoy, consists primarily of vehicles carrying troops, equipment, and/or supplies.

(3) To allow for easier control, the main body may be subdivided into serials and march units. Each serial or march unit will also be organized with a head, main body, and trail with each head having its own pacesetter.

c. Trail

(1) The trail is the last element of a march column.

(2) The trail officer or noncommissioned officer represents the convoy commander in such functions as maintaining march discipline, preventing straggling, and checking final clearance of designated points.

d. Detached Party

(1) Detached parties (advance and follow-up) are not part of the main column. They are detailed to perform special duties such as quartering and reconnaissance.

(2) In some situations, detached parties may be used as advance, flank, or rear guards or as guides and escorts for heavily traveled routes and at busy intersections.

4. COLUMN FORMATIONS. There are three basic types of column formations used in a motor movement: open column, close column, and infiltration. The specific characteristics of each formation are as follows:

a. Open Column

(1) In open column formations distance between vehicles is increased to enhance dispersion.

(2) An open column increases the degree of passive protection against hostile observation and air attack by having distances between vehicles greater to enhance dispersion.

(3) Advantages of an open column.

(a) An open column, normally used during daylight, allows greater highway speeds with safety and provides for greater flexibility in highway use.

(b) The chance of enemy observation or attack is lessened by having the vehicles further apart.

(c) There are fewer accidents in an open column due to more flexibility and reduced driver fatigue.

(4) Disadvantages of an open column.

(a) Command and control of an open column are difficult due to the increased length of the column.

(b) Proper vehicle spacing is hard to keep due to the increased length of the column and the gap between vehicles and elements.

b. Close Column

(1) A close column formation makes column control and intra-column communications easier.

(2) Each vehicle in a close column follows the vehicle ahead at a distance sufficient to ensure against collision. This distance may be governed by a given operating gap or by a speedometer multiplier.

(3) The gap specified in a close column is dependent upon road conditions, weather conditions, terrain, and convoy security requirements.

(4) The close column is generally used in blackout operations and over poorly marked routes when visual contact between vehicles is essential, in areas where hostile action is not imminent, and the utilization of the full capacity of the road net is desirable.

(5) Advantages of a close column.

(a) The full traffic capability of the road can be used, ensuring better control of the column.

(b) In a close column, fewer guides, escorts, and road markers are required.

(6) Disadvantages of a close column.

(a) In a close column, quick dispersion is difficult and the column is easily detected.

(b) At the point of arrival, there is a lot of congestion because of the closed up column.

(c) A close column requires careful scheduling and control to avoid the blocking of intersections.

(d) Driver fatigue is greater in a close column.

c. Infiltration

(1) Infiltration provides the best passive defense against hostile observation and attack; however, it provides the least active defense capability if individual or small groups of vehicles are attacked.

(2) Infiltration permits individual vehicles to travel at high speeds and cause less cross-traffic interference and permits the use of a route on which heavy traffic normally precludes the entire unit moving at one time.

(3) In infiltration formations, vehicles are dispatched individually or in small groups, at irregular intervals, at a rate, which minimizes changes in the average traffic density, and prevents the massing of vehicles.

(4) Deception is provided by intermingling various types of vehicles and permitting vehicle passing within the column.

(5) Advantages of column movement by infiltration.

(a) Infiltration movement provides maximum security and deception because of the method in which the column or individual vehicles are dispatched.

(b) Higher vehicle speeds are possible because other traffic has little effect on individual vehicles.

(6) Disadvantages of column movement by infiltration.

(a) Because of the method of departure and the need for deception, more time is required to complete the move, control of the column is nearly impossible, and drivers may get lost.

(b) Also, vehicle maintenance, refueling, and messing are difficult to coordinate.

(c) Movement by infiltration requires the use of experienced drivers. Inexperienced drivers may bunch up causing close columns to form.

(d) The unit cannot be redeployed as a unit until the last vehicle arrives at the destination.

5. **COLUMN MOVEMENT EXECUTION** Prior to conducting motor transport convoy operations, the following preparatory steps must be completed:

a. The warning order must be issued.

b. Convoy Commanders checklist.

(1) Mission requirements

(a) Current intelligence/situation

(b) Task vehicles: type and quantity

1. Personnel

2. Cargo by type, class, and size

(c) Security vehicles: type and quantity. What is the threat, are hardened vehicles needed, what type of weapons systems may be required, and how many?

(d) Maintenance vehicles. The type of vehicles in the convoy will determine the type, and number of recovery vehicles that are needed, and vice versa.

(e) Material handling equipment (MHE). The type and size of the cargo will determine what type of equipment is needed to load and unload the vehicles.

(f) Command and control vehicles: type and quantity. These are your pace setter, convoy commander, serial commander, advance officer, trail officer, and so on. The size of the convoy and distance traveling will determine how many you will need. Keep in mind these vehicles will also increase the size of the convoy.

(2) Reconnaissance

(a) Map and Photo

(b) Physical. Route reconnaissance

(3) Route Selection.

(a) Roads. Are they capable of supporting the vehicles in the convoy?

(b) Bridges and tunnels. Determine bridge classifications and tunnel sizes before you leave. This will require knowing the type and size of the cargo, so that you can determine the over all height and width of the vehicle.

(c) Grades and curves

(d) Traffic density

(e) Requirements for route preparation or repair. If the route is not in operable shape an engineer detachment may have to precede the convoy to conduct repairs

(f) Enemy capabilities

(4) Liaison and Coordination

(a) Units along the route. Coordination is required to determine restrictions or special requirements, if any, and support these units may provide.

(b) Units being moved. Items to be coordinated include the movement schedule, preparation of troop carrying vehicles, requirements for MHE and loading of vehicles, command relationships, communications, and actions in the event of attack.

(c) Supporting units.

(d) Highway control agencies.

(e) Shippers/cargo handlers.

(5) Convoy Organization

(a) Size of serials/march units.

(b) Type of column.

(c) Operating gaps.

1. Serials/march units

2. Vehicles

(d) Positions of security and supporting units.

(e) Positions of command personnel/escorts/guides.

(f) Organization for command.

(g) Vehicle markings.

(6) Movement Plan

(a) Controlled route.

1. Convoy clearance/movement credit. Movement credit is the allocation granted to one or more vehicles over a controlled route in a fixed time according to movement instructions.

2. Road movement table.

3. Special permits or authorization.

(b) Distance, time, and rate of movement

1. Trip distance.

2. Required start time.

3. Column length.

4. Slowest vehicle.

5. Required delivery time.

6. Rate of movement/speed (speedometer multiplier).

7. Maximum catch up speed.

(c) Loading

1. Time and place.

2. Report to.

3. Type/class cargo.

4. Outsized loads.

5. Material handling equipment required.

6. Blocking.

(d) Staging

1. Location. Staging is an all hands operation that requires an area large enough to accommodate all the vehicles of the march.

2. Vehicle checks.

3. Cargo checks.

4. Time to start point.

(e) Operator briefing

(f) Start point. A place on the route of march, easily recognizable on the map and the ground, and readily accessible, such as a road intersection. The column or serial is formed, without halting, by successive arrival of its units at the SP.

1. Location/grid coordinates.

2. Identification characteristics.

(g) Check points

1. Location/grid coordinates.

2. Identification characteristics/alphanumeric designators.

(h) Guides and markers

1. Positions.

2. Posting and pickup.

(i) Halts. Halts are made for rest, personal comfort and relief, messing, refueling, maintenance and inspection of equipment, and schedule adjustment while allowing other traffic to pass.

1. Purpose.

2. Time and duration.

3. Location.

(j) Maintenance

1. Trail.

2. En route support.

(k) Medical support

1. Organic capacity.

2. Evacuation procedures.

(l) Release point. Like starting points they are readily identified. When elements composing the march return under the authority of their respective commanders.

1. Location/grid coordinates.

2. Identification characteristics.

3. Report requirements.

4. Control of vehicles and operators.

(m) Unloading

1. Time and place.

2. Report to.

3. Material handling equipment required.

(n) Back load turn around

(7) Security En Route

(a) Action event of attack.

1. Air attack.

2. Artillery attack.

3. Sniper.

(b) Air support procedures.

(c) Fire support plan.

(d) Use of lights - blackout restrictions.

(8) Service support

(a) Fuel.

1. Location/times.
2. Types and quantity.
3. Accompanying convoy.

(b) Messing/rations.

1. Location/times.
2. Units on route.
3. Prescribed loads.

(9) Communications

(a) Convoy control net.

1. Serial/march unit Commanders.
2. Parent unit/headquarters.

(b) Alert/broadcast net.

(c) Security/tactical nets.

(d) Fire and air support nets.

(e) Medical evacuation.

(f) Visual signals.

(g) Sound signals.

(10) Convoy Commander's after action report.

6. COLUMN CONTROL AND MARCH DISCIPLINE

a. March Column Control. Control within a march column is maintained by command and staff personnel (convoy, serial, and march unit commanders). Depending on the size of the column and requirements of the situation, guides, escorts, military police, and patrols may be used to help with column control. Column control comes from the following personnel and means:

(1) Advance officer. The advance officer is normally an experienced officer or SNCO.

(a) The advance officer will precede the column and reconnoiter the route of march, selecting detours or alternate routes to avoid narrow or obstructed sections of the route.

(b) The advance officer also effects coordination, liaison, and guide or marker posting en route.

(2) Pacesetter. The pacesetter is responsible for maintaining the rate of march necessary for the column to meet its schedule.

(a) The pacesetter is an experienced vehicle operator who is placed in the lead vehicle at the head of the convoy and in each element in the convoy.

(b) Normally, the slowest vehicles and those requiring the longest loading times are placed at the head of the column. They serve as the basis for determining the speed and turnaround time of the column.

(3) Trail officer. The trail officer is responsible for checking and observing individual vehicles, march units, serials at the start point, observing vehicles ahead of him on the march, and ensuring that traffic from the rear is warned when the column halts.

(a) The trail officer is an experienced officer or staff NCO positioned at the rear of the march column.

(b) The trail officer is responsible for picking up guides and markers left on posted routes by preceding elements of the march column.

(c) The trail officer is also responsible for making on-the-spot investigations of accidents, directing the evacuation of wounded or injured personnel, and effecting the disposition of disabled equipment.

(4) Trail maintenance officer.

(a) The trail maintenance officer is a maintenance qualified officer or staff NCO riding at the rear of the column with maintenance personnel and equipment.

(b) In a small column, the trail officer and trail maintenance officer may be the same individual.

(5) Advance party. The responsibility of the advance party is to establish a bivouac en route to or at the convoy's destination.

(a) The advance party is not included in column control, but may travel with the column during the early stages of the move.

(b) When the advance party departs from the column to perform their duties, they are no longer an integral part of the column.

(6) Additional personnel. The march column may have additional personnel to facilitate control. These people consist of local interpreters, military police for traffic control and handling of prisoners, and foreign military liaison personnel.

b. Convoy Discipline. The individual vehicle operator and convoy element commanders have specific march discipline responsibilities.

(1) Vehicle operator. The responsibility for good march discipline begins with the vehicle operator. Each operator is responsible for:

(a) Maintaining vehicle gap and speed,

(b) Observing safety precautions,

(c) Performing prescribed at-halt maintenance, and

(d) Strict compliance with SOP's and specific orders governing the movement.

(2) Serial and march unit commanders. The serial and march unit commanders exercise general supervision over their respective units. They are responsible for:

(a) Maintaining the proper position of their elements within a larger column and

(b) Carrying out the orders of the column (convoy) commander.

(3) Pacesetter. The pacesetter is responsible to the march unit commander for adjusting the speed to suit the road, terrain, and weather conditions.

(4) Convoy Commander. The convoy commander is responsible for the conduct, safety, security, and overall accomplishment of the convoy's mission.

7. TYPES AND METHODS OF HAUL

a. There are three types of haul: local, line, and zonal.

(1) Local (short) haul. For this type of haul, the ratio of running time to loading/unloading time is small.

(a) Vehicles doing local hauls make several trips per day.

(b) The measure of effectiveness for evaluating local haul operations is the amount of tonnage moved during the operational period.

(2) Line (long) haul. For this type of haul, the ratio of running time to loading/unloading time is large.

(a) Vehicles doing line haul make one trip or portion of a trip per operating shift.

(b) The measures of effectiveness for evaluating line haul operations are time consumed, distance traveled, and tonnage hauled during the operational period.

(3) Zonal haul.

(a) Motor transport operations confined within the territorial boundaries of one command are intra-zonal.

(b) Vehicles crossing boundaries and operating under the area control of more than one command are inter-zonal.

b. There are three methods for conducting hauls of cargo and personnel by motor transport.

(1) Direct haul. A direct haul is used when a single motor transport mission needs to be completed in one trip.

(a) During a direct haul, there is no transfer of supplies or exchange of equipment.

(b) The direct haul is also used by a commander to speed up forward movements.

(2) Shuttle haul. A shuttle haul is the use of the same vehicle(s) making repeated trips between two points. The shuttle method is most commonly used for local hauls.

(3) Relay haul. Relay hauling is the continuous movement of supplies and troops over successive segments of a route without transferring the load.

(a) During relay hauling, the motor transport unit will change drivers, tractors, or power units, or both for each segment.

(b) The relay system using tractor-semitrailer combinations is the most efficient method of line haul operation, and the best hauling method when the unit cannot complete a one-way haul in one day.

(c) The relay haul is the best technique for a well-developed road network not subject to enemy interdiction.

REFERENCES:

1. *FM 4-9 Motor Transport.*
2. *TM 11240-14/2 Logistics Considerations for Motor Transport in a Guerrilla Environment.*
3. *55-15 Transportation reference data.*
4. *5-36 Route Reconnaissance and Classification*
5. *MCRP 4-11.3f Convoy Operations Handbook*